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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/655,191

09/05/2000

Takayasu Komatsu

TJK/115

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26689

7590

04/23/2003

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EXAMINER

MACCHIAROLO, PETER J

ART UNIT

PAPER NUMBER

2875

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/655,191

Applicant(s)

KOMATSU ET AL.

Examiner

Peter J Macchiarolo

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 1, 10 and 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Priority

1. Receipt of the claim for foreign priority is acknowledged.

Drawings

2. Figure 11 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g).
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: T5. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities:
5. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The Specification is not written in a clear and concise manner. Specifically, the figures should be described in ascending order to make the Specification easier to comprehend. Any detail necessary to understand Applicant's invention should be included in the paragraph that describes the figure to which the detail refers.
6. Further, the Specification has numerous awkward sentences. An example of which can be found on page 2 of the Specification. "Such protruded portion may provide a bad influence on

processes after the removing process...” is not proper English. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Claim Objections

7. Claims 1 and 12 are objected to because of the following informalities:
8. The claim structure used by Applicant does not conform to standard U.S. practice, and is difficult to interpret. Specifically, claim 1 does not clearly contain a preamble, a transitional word, or a main body. Further, claim 12 recites two transitional words, “comprising,” making the preamble difficult to ascertain. See MPEP §608.01(m). The Examiner recommends the following claim structure:

[Preamble] [transitional word]:

[limitation X];

[limitation Y]; and

[limitation Z].

9. Appropriate correction is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Claim 12 recites the limitation “the breaking processes” in line 9. There is insufficient antecedent basis for this limitation in the claim. The Examiner is interpreting this limitation as follows:

a. “removing the outer frame portion from the plate member through breaking processes at least including a folding process, a tension process, and a tearing process, which is applied to the portion to be broken.”

13. Claim 13 depends from claim 12 and is therefore also rejected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hosotani et al (USPN 5,616,985 "Hosotani").

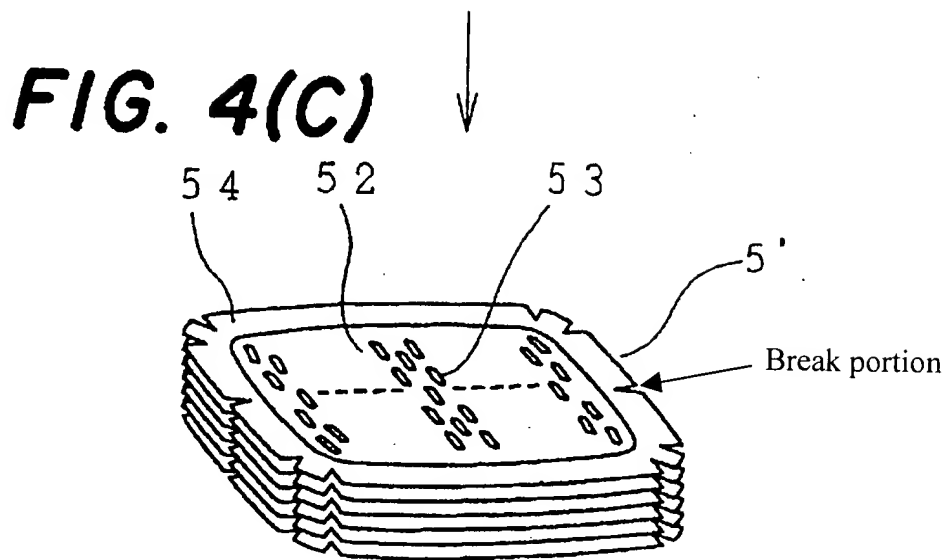
16. In regards to claims 1 and 5, Hosotani discloses in figures 4a-4d, a shadow mask formed from a plate member comprising an outer frame portion (1), a body portion of a shadow mask having an outer peripheral line (54) which is patterned by means of photography (column 2 lines 23-25). Hosotani further discloses a break portion (see below) which is recessed inward from the outer peripheral line of the shadow mask.

17. Hosotani is silent to a plurality of connection portions through which the body portion of the shadow mask is supported by the outer frame portion.

18. However, it is obvious that the shadow mask body portion does indeed connect to, and is supported by the outer frame portion, since the shadow mask and the outer frame portion make up one sheet of metal, and are inherently connected.

19. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the shadow mask of Hosotani including the plurality of connection portions, since it is obvious that these portions are inherently connected to the shadow mask in a beginning step of manufacturing the shadow mask.

20. The Examiner notes that the claim limitations, "formed through an etching process," and, "the shadow mask being formed by...of the shadow mask." are drawn to processes of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).



21. In regards to claim 2, Hosotani teaches all of the recited limitations of claim 1 (above).

22. The Examiner notes that the claim limitation “formed by...of the shadow mask” is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation.

Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

23. In regards to claim 3, Hosotani teaches all of the recited limitations of claim 1 (above).

24. The Examiner notes that the claim limitation “formed through...tearing process” is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation.

Consequently, absent a showing of an unobvious difference between the claimed product and the

prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

25. In regards to claims 4, Hosotani teaches all of the recited limitations of claim 1 (above).

26. The Examiner notes that the claim limitation “formed to be...100µm” is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation.

Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

27. In regards to claims 6-9, and 11 Hosotani teaches all of the recited limitations of claim 1 (above).

28. Hosotani further teaches in figure 4c that the portion to be broken is arranged so as to be opposed to the connection portion. Hosotani further teaches the portion to be broken has a predetermined length in a direction along the outer peripheral line. Hosotani further teaches in figure 4c that the portion to be broken is a portion forming a break portion of the shadow mask from which the outer frame portion is removed.

29. Hosotani is silent to the predetermined length of the portion to be broken being substantially the same as that of the opposed connection portion in the direction along the outer peripheral line.

30. However, it would have been obvious to modify Hosotani's different lengths to be substantially the same, because the predetermined length of the portion to be broken would not perform differently if it was not substantially the same as the length of the opposed connection portion, and therefore is not patentable over the prior art. See MPEP 2144.04 (IV).

31. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the shadow mask of Hosotani, including the predetermined length of the portion to be broken being substantially the same as that of the opposed connection portion in the direction along the outer peripheral line, since it would have been an obvious matter of design choice.

32. The Examiner notes that the claim limitation "is subjected to a half-etching process" in claim 8 and the claim limitation "is formed...concave shape" in claim 9 is drawn to processes of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation is not afforded patentable weight (see MPEP 2113).

Conclusion

33. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

34. The prior art of record does not specifically recite a distance between the outer peripheral line and the center line being longer than 25 μ m and not more than 100 μ m.

35. Claims 12-13 would be allowable if rewritten or amended to overcome the objection, and the rejection under 35 U.S.C. 112, second paragraph, set forth in this Office action.

36. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record motivates and discloses a method of manufacturing a shadow mask comprising the steps of preparing a plate member having a shadow mask with an outer peripheral line, an outer frame, a plurality of connection portions, and a portion to be broken. However, the prior art of record fails to motivate or disclose a method for manufacturing a shadow mask having the above limitations, including removing the outer frame portion from the plate member through breaking processes at least including a folding process, a tension process, and a tearing process, which is applied to the portion to be broken.

37. Claim 13 depends from claim 12 and would therefore also be allowable.

38. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

39. U.S. Patents 4,846,747 to Higashinakagawa et al and 4,427,396 to van den Berg both disclose a method for manufacturing a shadow mask which is extremely similar to Applicant's method.

40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (703) 305-7198. The examiner can normally be reached on 7.30 - 4:30, M-F.

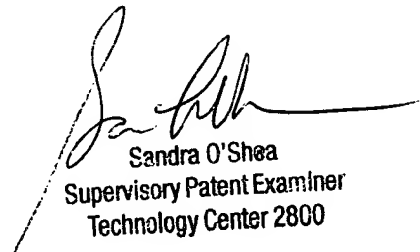
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

pjm
April 21, 2003



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800